

AMENDMENTS TO THE CLAIMS

Following is a listing of all claims in the present application, which listing supersedes all previously presented claims:

Listing of Claims:

1. (Currently Amended) A probe for use in photoplethysmographic (PPG) measurement, comprising:
  - a light source unit including a light source, the light source unit adapted to contact a predetermined site of an object and to emit light onto the predetermined site;
  - a photodetector unit positioned facing the light source unit to receive the light emitted from the light source unit and transmitted through the object;
  - a body having a space for receiving the object and in which the light source unit and the photodetector unit are positioned along a same vertical axis with respect to a surface of the body supporting the body object; and
  - a pressure application unit coupled to the body for applying a pressure to the object via the light source unit, the pressure unit including a nut attached to an upper surface of the light source unit to be movable in a vertical direction and a bolt coupled to the nut; and  
an elastic member between the nut and the light source unit,  
wherein the pressure application unit is always on a vertical line passing through  
aligned in the same vertical axis above the light source unit and the photodetector unit.

2. (Original) The probe as claimed in claim 1, wherein the light source unit comprises a light emitting diode as a light source.

3. (Original) The probe as claimed in claim 1, wherein the photodetector unit comprises a photoelectric converter for converting light detected by the photodetector unit into an electric signal.

4. (Cancelled)

5. (Cancelled)

6. (Currently Amended) The probe as claimed in claim [[5]] 1, further comprising:

a heat dissipating plate between the nut and the light source unit.

7. (Cancelled)

8. (Currently Amended ) ~~The probe as claimed in claim 7, further comprising:~~  
A probe for use in photoplethysmographic (PPG) measurement, comprising:  
a light source unit including a light source, the light source unit adapted to contact a predetermined site of an object and to emit light onto the predetermined site;  
a photodetector unit positioned facing the light source unit to receive the light emitted from the light source unit and transmitted through the object;  
a body having a space for receiving the object and in which the light source unit and the photodetector unit are positioned along a same vertical axis with respect to a surface of the body supporting the object;  
a pressure application unit coupled to the body for applying a pressure to the object via the light source unit, the pressure application unit including a nut attached to an upper

surface of the light source unit to be movable in a vertical direction, a bolt coupled to the nut,  
and an elastic member between the nut and the light source unit; and  
a heat dissipating plate between the elastic member and the light source unit,  
wherein the pressure application unit is aligned in the same vertical axis above the  
light source unit.

9. (Withdrawn) The probe as claimed in claim 1, wherein the pressure application unit comprises:

a structure having a horizontal portion and a vertical portion, wherein the horizontal portion contacts an upper surface of the body when the body is void of the object and protrudes above the upper surface of the body when the object is inserted into the body, and wherein the vertical portion of the structure is connected in a perpendicular direction to the horizontal portion of the structure and has an end connected to the light source through a through hole in an upper horizontal portion of the body; and

an elastic member surrounding the vertical portion of the structure between the body and the light source unit such that an elastic force is exerted on the body and the light source unit.

10. (Withdrawn) The probe as claimed in claim 9, wherein the elastic member is a spring having an inner diameter that is at least equal to a diameter of the through hole extending through the upper horizontal portion of the body.

11. (Withdrawn) The probe as claimed in claim 9, further comprising:  
a heat dissipating plate between the vertical portion of the structure and the light source unit.

12. (Withdrawn) The probe as claimed in claim 1, wherein the pressure application unit comprises:

a structure having a weight sufficient to apply pressure to the object, and a horizontal portion and a vertical portion, wherein the vertical portion of the structure is connected in a perpendicular direction to the horizontal portion of the structure and has an end connected to the light source unit through a through hole in an upper horizontal portion of the body.

13. (Withdrawn) The probe as claimed in claim 12, further comprising:  
a weight element placed on the horizontal portion of the structure to increase an amount of pressure applied to the object via the light source unit.

14. (Withdrawn) The probe as claimed in claim 12, further comprising:  
a heat dissipating plate between the vertical portion of the structure and the light source unit.

15. (Withdrawn) The probe as claimed in claim 13, further comprising:  
a heat dissipating plate between the vertical portion of the structure and the light source unit.

16. (Currently Amended) The probe as claimed in claim 1, further comprising:  
A probe for use in photoplethysmographic (PPG) measurement, comprising:  
a light source unit including a light source, the light source unit adapted to contact a predetermined site of an object and to emit light onto the predetermined site;  
a photodetector unit positioned facing the light source unit to receive the light emitted from the light source unit and transmitted through the object;

a body having a space for receiving the object and in which the light source unit and the photodetector unit are positioned along a same vertical axis with respect to a surface of the body supporting the object;

a pressure application unit coupled to the body for applying a pressure to the object via the light source unit, the pressure application unit being aligned in the same vertical axis above the light source unit; and

a pressure application break button electrically connected to the probe for allowing the subject or an operator to cease the application of pressure by the pressure application unit.

17. (Currently Amended) A biological signal measuring system, comprising:
  - a probe in which light is emitted onto a predetermined site of an object and the light transmitted through the object is detected;
  - a controller for controlling the operation of the probe and for recording and analyzing signals output from the probe;
  - a detected light intensity display unit for displaying an intensity of light detected by the probe; and
  - a biological signal display unit connected to the detected light intensity display unit for displaying a biological signal measured from an object,  
wherein the probe includes:
    - a light source unit including a light source, the light source unit adapted to contact a predetermined site of the object and to emit light onto the predetermined site;
    - a photodetector unit positioned facing the light source unit for receiving the light emitted from the light source unit and transmitted through the object;

a body having a space for receiving the object and in which the light source unit and the photodetector unit are positioned along a same vertical axis with respect to a surface of the body supporting the body object; and

a pressure application unit coupled to the body for applying a pressure to the object via the light source unit, the pressure unit including a nut attached to an upper surface of the light source unit to be movable in a vertical direction and a bolt coupled to the nut; and

an elastic member between the nut and the light source unit,  
wherein the pressure application unit is always on a vertical line passing through aligned in the same vertical axis above the light source unit and the photodetector unit.

18. (Cancelled)

19. (Cancelled)

20. (Currently Amended) The biological signal measuring system as claimed in claim [[19]] 17, further comprising:

a heat dissipating plate between the nut and the light source unit.

21. (Cancelled)

22. (Withdrawn – Currently Amended) The biological signal measuring system as claimed in claim [[21]] 17, further comprising:

a heat dissipating plate between the elastic member and the light source unit.

23. (Withdrawn) The biological signal measuring system as claimed in claim 17, wherein the pressure application unit comprises:

a structure having a horizontal portion and a vertical portion, wherein the horizontal portion contacts an upper surface of the body when the body is void of the object and protrudes above the upper surface of the body when the object is inserted into the body, and wherein the vertical portion of the structure is connected in a perpendicular direction to the horizontal portion of the structure and has an end connected to the light source through a through hole in an upper horizontal portion of the body; and

an elastic member surrounding the vertical portion of the structure between the body and the light source unit such that an elastic force is exerted on the body and the light source unit.

24. (Withdrawn) The biological signal measuring system as claimed in claim 23, further comprising:

a heat dissipating plate between the vertical portion of the structure and the light source unit.

25. (Withdrawn) The biological signal measuring system as claimed in claim 17, wherein the pressure application unit comprises:

a structure having a weight sufficient to apply pressure to the object, and a horizontal portion and a vertical portion, wherein the vertical portion of the structure is connected in a perpendicular direction to the horizontal portion of the structure and has an end connected to the light source unit through a through hole in an upper horizontal portion of the body.

26. (Withdrawn) The biological signal measuring system as claimed in claim 25, further comprising:

a weight element placed on the horizontal portion of the structure to increase an amount of pressure applied to the object via the light source unit.

27. (Withdrawn) The biological signal measuring system as claimed in claim 25, further comprising:

a heat dissipating plate between the vertical portion of the structure and the light source unit.

28. (Withdrawn) The biological signal measuring system as claimed in claim 26, further comprising:

a heat dissipating plate between the vertical portion of the structure and the light source unit.

29. (Original) The biological signal measuring system as claimed in claim 17, wherein the biological signal display unit is a photoplethysmographic (PPG) display unit that displays a photoplethysmographic (PPG) wave from the object.

30. (Original) The biological signal measuring system as claimed in claim 17, wherein the controller is a microprocessor.

31. (Original) The biological signal measuring system as claimed in claim 29,  
further comprising:  
a device selected from the group consisting of: an analog-to-digital converter (ADC),  
a programmable logic device (PLD), and a processor for recording a measured PPG wave.